

METHOD AND APPARATUS FOR ROBUST BIASING OF BIPOLAR AND
BiCMOS DIFFERENTIAL ARCHITECTURES

ABSTRACT OF THE DISCLOSURE

5 A base bias circuit generates a bias voltage for a bipolar transistor. The base bias
circuit includes a current mirror circuit which tracks current through a current source
which drives emitter current through the bipolar transistor. A primary biasing bipolar
transistor and a secondary bipolar transistor have a β which tracks the β of the bipolar
transistor. The primary biasing bipolar transistor receives current from the current
10 source through a current mirror circuit to develop the bias voltage. A bias resistor
coupled between the bias voltage and the base of the primary biasing bipolar transistor
tracks resistance variations in the base resistor. The secondary biasing transistor tracks
changes in base current to the bipolar transistor and supplies additional current to the
primary biasing transistor to compensate for changes in β .

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